

ABSTRACT OF THE DISCLOSURE

An enhanced switch/network adapter port ("SNAP<sup>TM</sup>") including collocated shared memory resources ("SNAPM<sup>TM</sup>") in a dual in-line memory module ("DIMM") or any other memory module format for clustered computing systems employing direct execution logic such as multi-adaptive processor elements ("MAP<sup>®</sup>", all trademarks of SRC Computers, Inc.). Functionally, the SNAPM modules incorporate and properly allocate memory resources so that the memory appears to the associated dense logic device(s) (e.g. a microprocessor) to be functionally like any other system memory such that no time penalties are incurred when accessing it.

Through the use of a programmable access coordination mechanism, the control of this memory can be handed off to the SNAPM memory controller and, once in control, the controller can move data between the shared memory resources and the computer network such that the transfer is performed at the maximum rate that the memory devices themselves can sustain. This provides the highest performance link to the other network devices such as MAP<sup>®</sup> elements, common memory boards and the like.